

Waste Diversion Concept Testing: Qualitative & Quantitative Findings

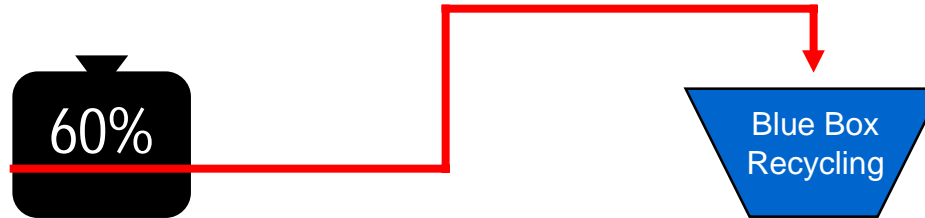
*Presentation For: The City of Toronto
Works Committee*

Date: March 28, 2001
Project No. 00-224/225/226

Background & Research Objectives

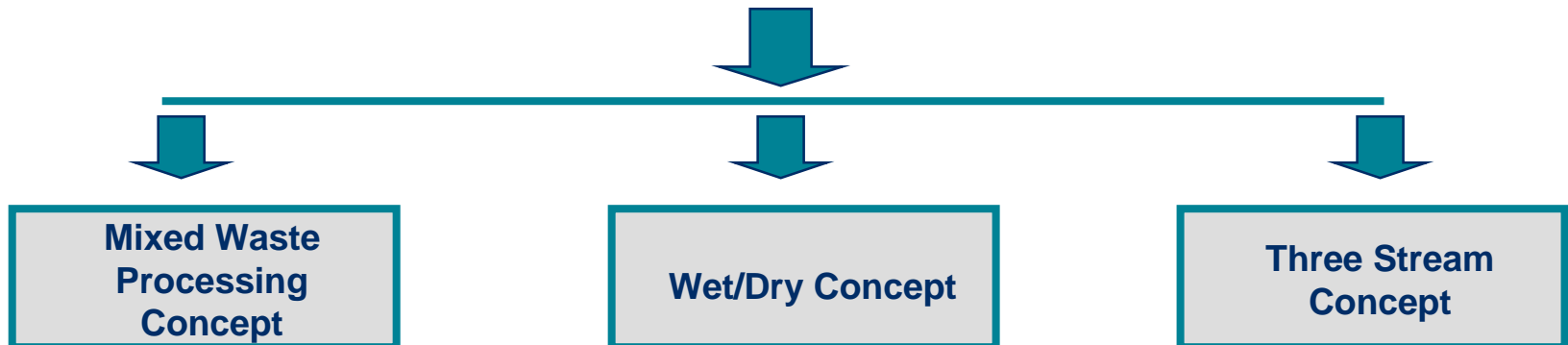


- The City of Toronto has initiated a long-term goal of 60% waste diversion by the year 2006.



- In order to achieve this goal, there is a need to understand current attitudes and behaviour towards waste diversion among City of Toronto residents.

The main objective of this two phase research initiative is to test the overall appeal of three proposed waste diversion concepts among City of Toronto residents using both a qualitative and a quantitative approach.



Who Did We Speak To? — Qualitative & Quantitative —



↘ In both the qualitative and quantitative studies we spoke to:

Curbside Participants



- Residents who bring their waste to curbside
- Most commonly live in single-family dwellings

Non-Curbside Participants



- Residents who bring waste to a centralized depot on the buildings premises, as opposed to the curbside
- Most commonly live in multi-unit dwellings

Methodology — Phase One: Qualitative



- Seven focus groups were conducted. Participants were divided into two target groups:

Curbside Participants

- Four groups in total consisting of:
 - Two groups male
 - Two groups female

Non-Curbside Participants

- Three groups in total consisting of:
 - One group males
 - One group females
 - One group Property Managers & Building Owners

Additional Qualifications For Participation:

- Consumer of bottled items, newspapers/magazines, and canned goods (Non-Curbside Participants);
- Participation in one of Blue/Green/Grey box, leaf/yard pick-up, or composting recycling programs (Curbside Participants);
- Own or manage a multi-unit building within the City of Toronto (Property Owners/Building Managers); and
- Across all groups: a mix of age, household income, education, and ethnicity.

Methodology — Phase Two: Quantitative



Sample Size:

- ↘ A total of 1,116 telephone interviews were conducted among City of Toronto residents.
- ↘ Interviews were conducted with:
 - **Curbside Participants (N=705)**
 - **Non-Curbside Participants (N=411)**

Field Dates:

- ↘ January 12th to 16th, 2001

Sample Distribution: Sample was drawn in proportion to the population of the City of Toronto.

| <u>Segment</u> | <u>Sample Size</u> | <u>Margin of Error</u> |
|---------------------------|--------------------|------------------------|
| Total Toronto | 1,116 | +/-2.9 |
| <u>Respondent Type</u> | | |
| Curbside Participants | 705 | +/-3.7 |
| Non-Curbside Participants | 411 | +/-4.8 |

Phase 1: Qualitative

Current Perceptions Towards Waste Diversion

Current Perceptions Towards Waste Diversion



Curbside Participants

- Room for increased awareness and understanding of waste diversion process from beginning to end.
- Non-recycling “culprits” within the home.
- Fear of animals “getting” into waste.
- Fear of infestation of insects and creation of bacteria.
- Concern surrounding waste odour.

Non-Curbside Participants

- Less awareness and understanding of waste diversion process from beginning to end.
- No recycling facilities at building.
- Inconvenient placement of recycling facilities.
- Lack of storage space in home.
- Concern surrounding waste odour and the attraction of insects and bacteria within the home.

Property Managers/ Building Owners

- Tenants are not consistently following posted waste diversion rules.
- Concerns surrounding the enforcement of these rules.
- Who is accountable and who should incur the costs associated with poor waste diversion habits within the building — tenant or owner?

Reaction To The Proposed Concepts

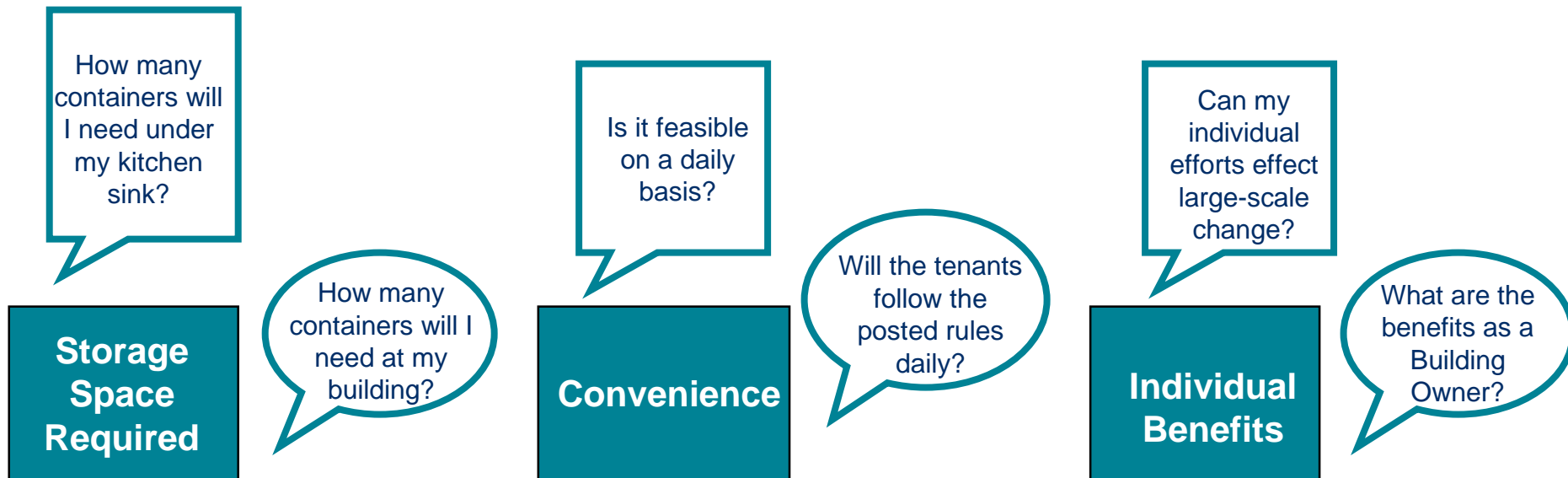
General Method Of Assessment



- ↘ There is a common theme uncovered throughout — **Convenience**
 - The appeal of a concept appears closely tied to its ease of use.

“...people would do these things as long as it is made easy for them. When they set up the (current) recycling system, everyone got a blue box and that made life very easy....Just as long as we have a system that makes life easy to recycle, then it will work.”

- ↘ Each group tends to assess the concepts based on the following key themes:



Reaction To The Wet/Dry Concept



- Of the three concepts proposed, Wet/Dry receives some consistently positive reviews.
- Specifically, Wet/Dry tends to be perceived as:
 - A simplified recycling system (only two types of waste separated); and
 - A long-term solution to Toronto's current solid waste issues.
- Perceived challenges and concerns of the Wet/Dry concept:

Curbside Participants

Frequency of wet material collection

Fear of wet waste attracting animals

Unattractive odours

Weight of wet waste container/bag

Non-Curbside Participants

Concern of where to store wet waste within the home

Transporting wet waste to depot - weight and mess?

Compatibility of current chute system

Infestation/odour caused by wet waste

Property Managers/Owners

Tenant education of new system

Fear tenants will not separate waste

Compatibility of current chute system

Fear of infestation (insects/animals) from wet waste

Reaction To The Three Stream Concept



- The Three Stream concept receives a mix of positive and negative reviews throughout all focus groups.

Pros:

- Several participants perceive the Three Stream concept to be a sound long-term solution to Toronto's waste issues, when compared with the other proposed concepts.

Challenges/Concerns:

- The perception is that this concept requires a fair amount of effort on the part of the individual resident, along with the following mentioned concerns:

Curbside & Non-Curbside Participants

Confusion surrounding what "organic" waste entails

Potential for organic waste to create unattractive odours

Storage space required for three waste containers

Organic waste attracting insects, bacteria, or animals

Type of container used for organic waste?

Frequency of organic collection (Curbside Participants)

Property Managers/ Building Owners

Compatibility of current chute system in accommodating three types of waste

Reaction To The Mixed Waste Processing Concept



- ↘ Across all groups, there is a perception that the Mixed Waste Processing Concept is quite similar to Toronto's current waste diversion system.

- ↘ In light of the perceived similarities of the two systems, there is a sense that respondents are less enthusiastic about the Mixed Waste Processing concept versus the Wet/Dry or Three Stream Concepts.
 - Specifically, many perceive Mixed Waste Processing to be a short-term solution to the City of Toronto's garbage problems.

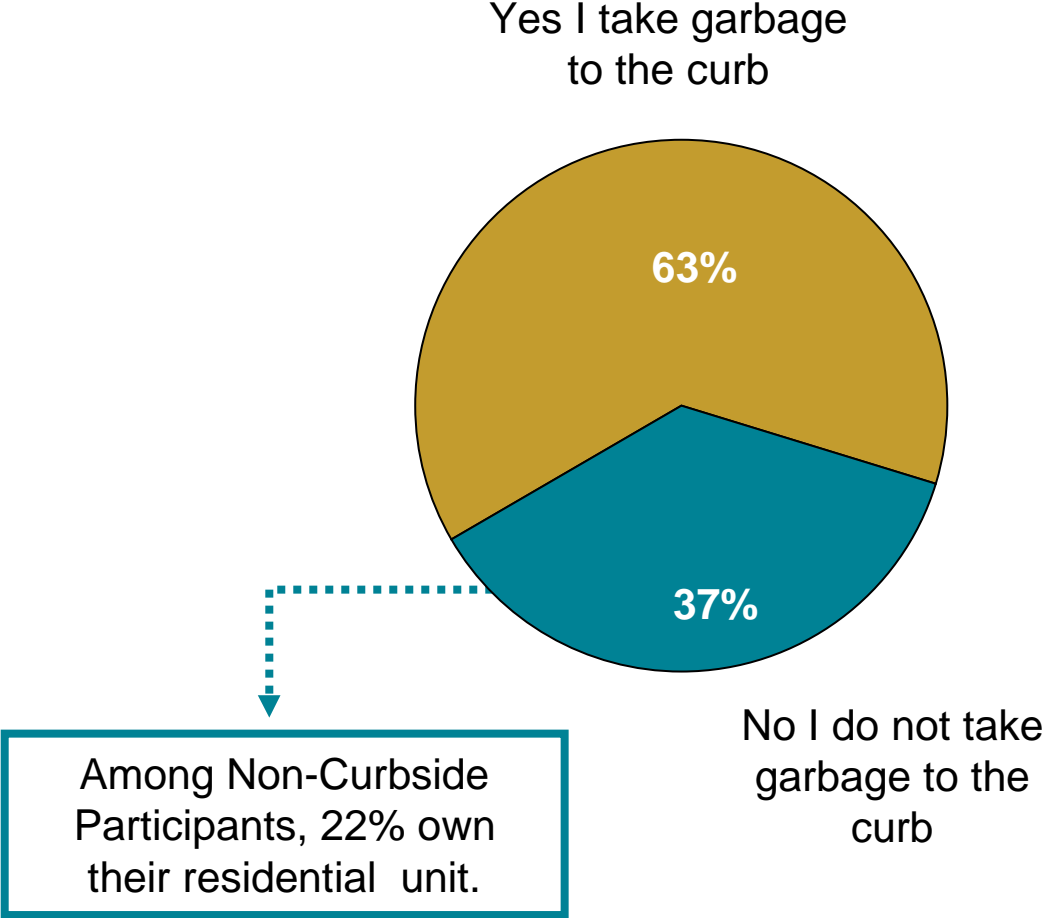
 - Interestingly, this concept provoked an assessment from many — that the individual resident needs to invest more into recycling efforts as a whole.

“The end product is the issue. In the year 2006, this system won't work. You are not taking enough out of the garbage bags.”

Phase 2: Quantitative

Current Attitudes & Behaviours Towards Recycling

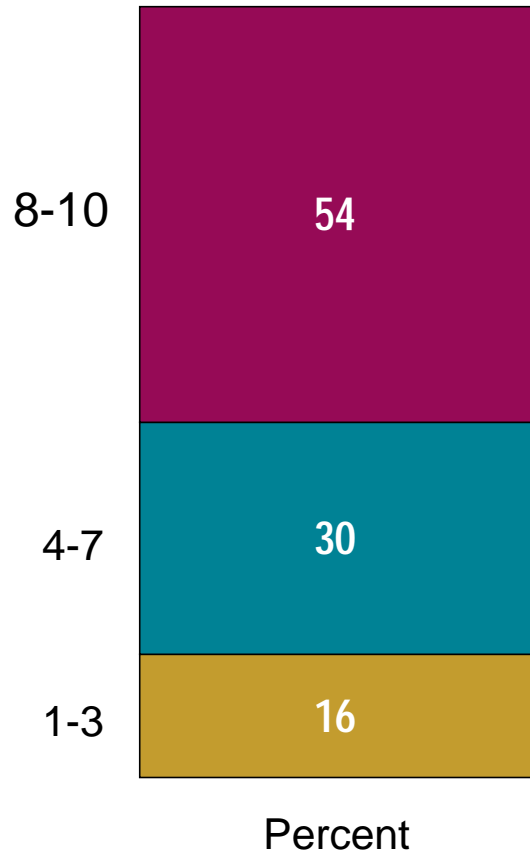
Incidence Of Disposing Of Waste At Curbside



Perceived Effort Dedicated Towards Household Waste Diversion Initiatives



Base: Among Total Sample, n=1,116



— **By Subgroup** —
% Saying 8-10

Type of Participant

| | |
|--------------|----|
| Curbside | 60 |
| Non-Curbside | 43 |

Participate In Blue Box Recycling

| | |
|----------------------|----|
| Participates | 61 |
| Does Not Participate | 25 |

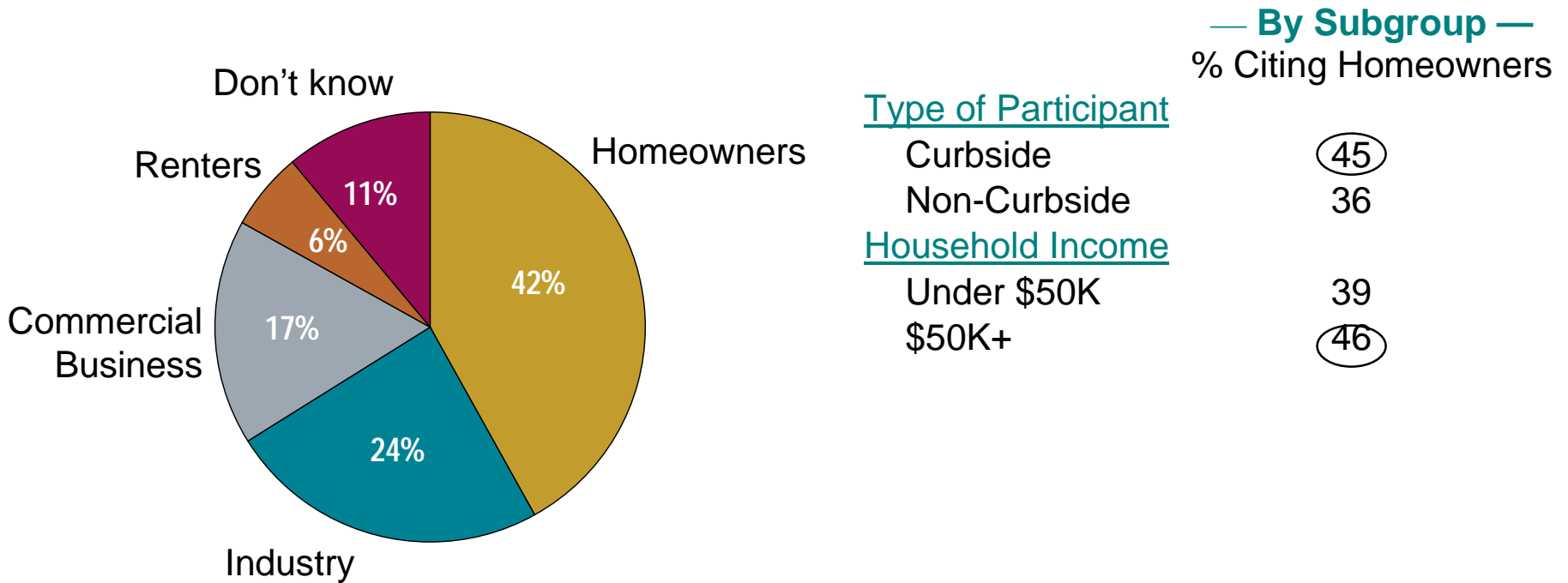
Age

| | |
|----------|----|
| Under 45 | 47 |
| 45+ | 61 |

Perceived Major Contributor & Therefore Bearer Of Responsibility For Toronto's Garbage Problem



Base: Among Total Sample, n=1,116



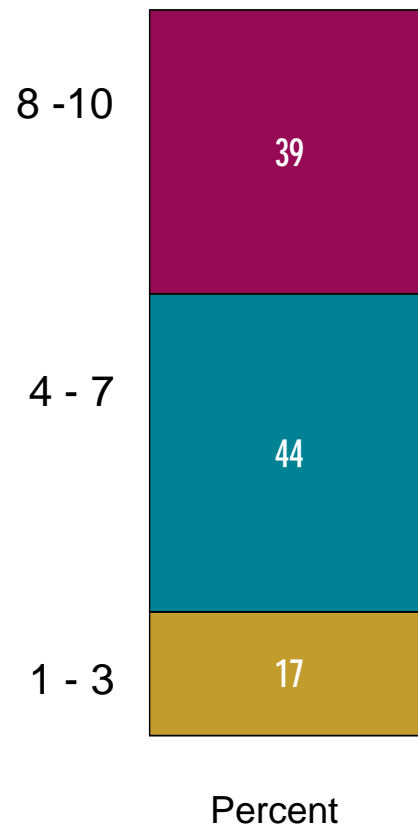
S1, Q.2 Who do you believe contributes the most and thus bears the greatest responsibility for helping to solve Toronto's garbage problem?

Perception Of Individual's Ability To Significantly Contribute To Solving Toronto's Garbage Problem



Base: Among Total Sample, n=1,116

Perceived Significance Of Individual's Efforts In Solving Toronto's Garbage Problem



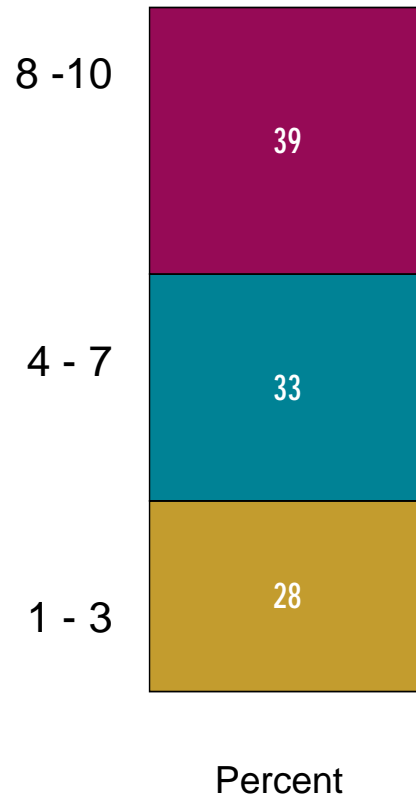
S1, Q.3 On a scale of 1 to 10 in which 1 means "Not At All Significant" and 10 means "Very Significant", how much do you believe that your individual contributions are helping to solve Toronto's garbage problems?

Perceived Ability Of Household To Reduce Amount Of Garbage Sent To Landfill



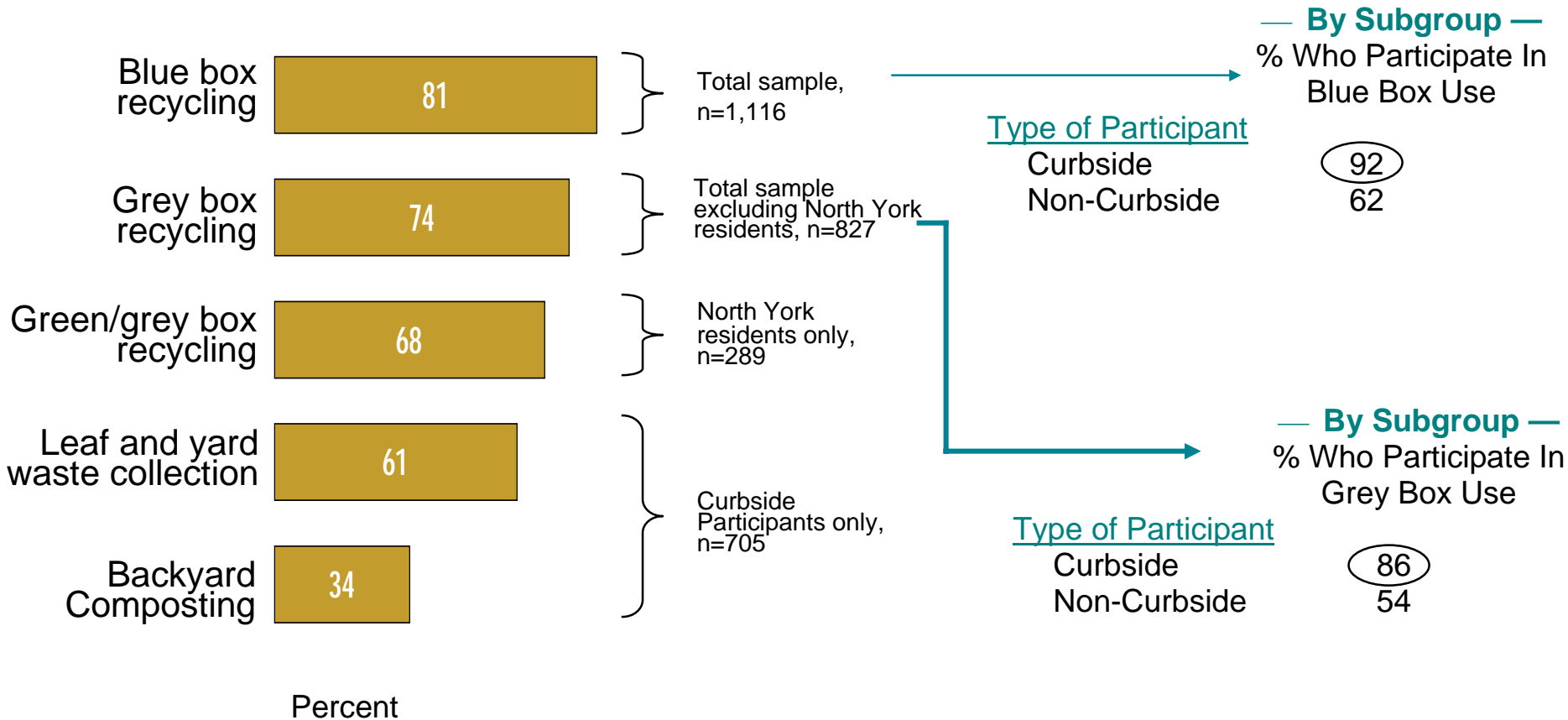
Base: Among Total Sample, n=1,116

Perception Of Additional Effort Required To Reduce The Amount Of Garbage Sent To Landfill



S1, Q.4 On a scale of 1 to 10 in which 1 means "No Effort" and 10 means "Maximum Effort", how much more effort do you believe that your individual household could play in reducing its amount of garbage by recycling more?

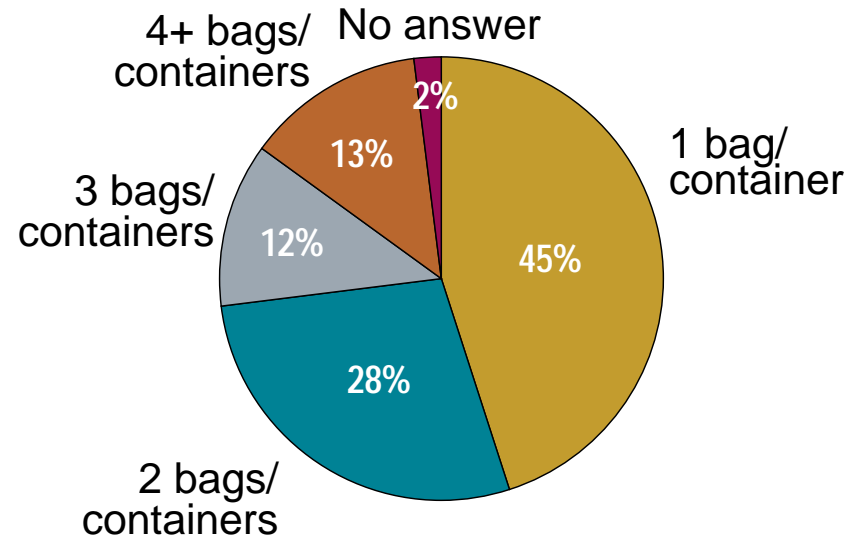
Incidence Of Individual Household's Involvement In Various Types Of Waste Diversion Initiatives



Number Of Bags/Containers Set Out For Collection Weekly — Among Curbside Participants



Base: Among Total Curbside Participants, n=705



Average=2.1

S1, Q.6 Approximately how many regular sized garbage bags and/or containers of garbage does your household set out for collection in a typical week? This does not include recycling containers.

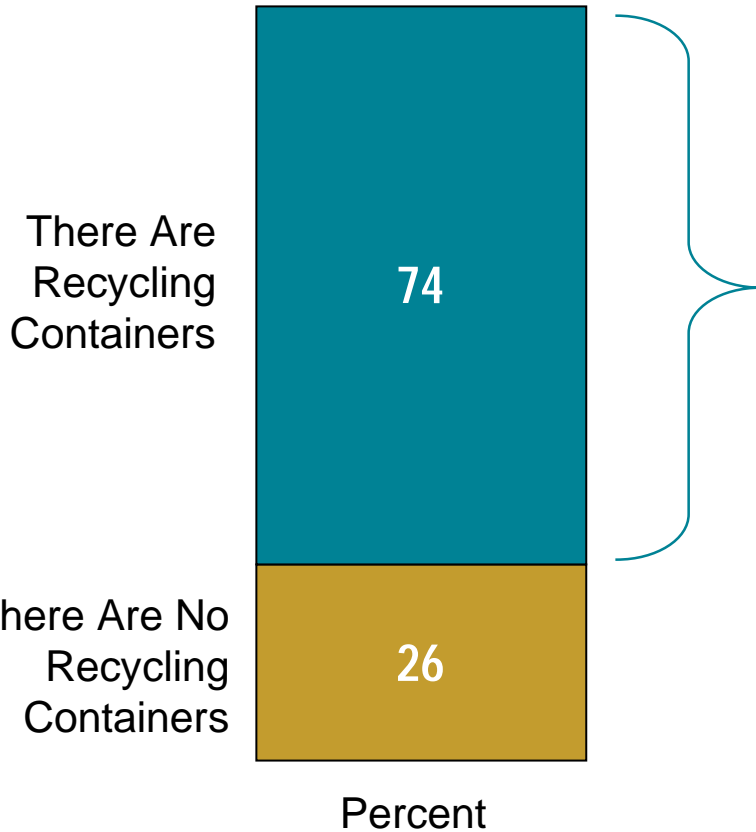
Incidence And Location Of Recycling Containers — Among Non-Curbside Participants



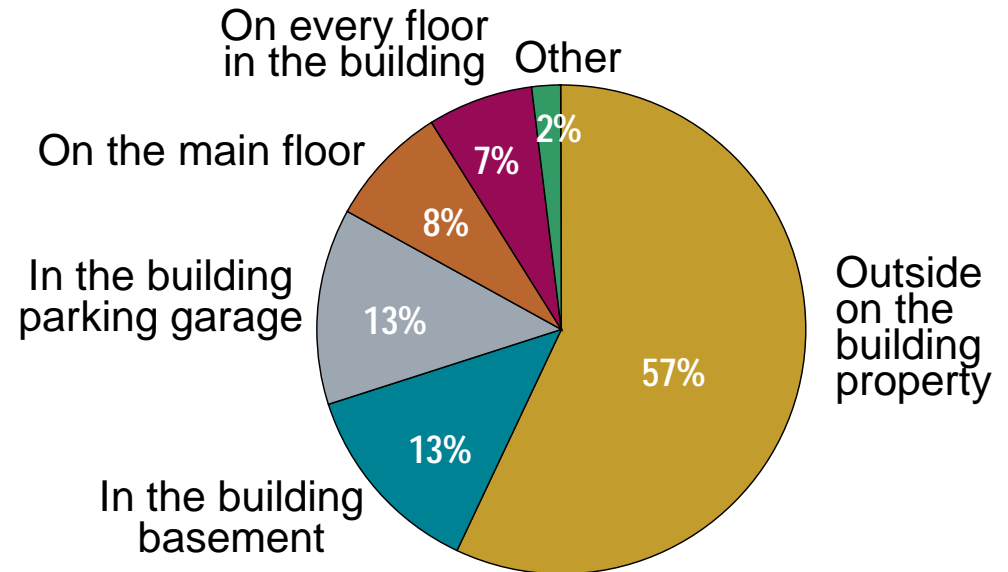
Base: Among Total Non-Curbside Participants, n=411

Base: Among Non-Curbside Participants that Have Recycling Containers, n=302

Availability of Recycling Containers



Location Of Recycling Containers



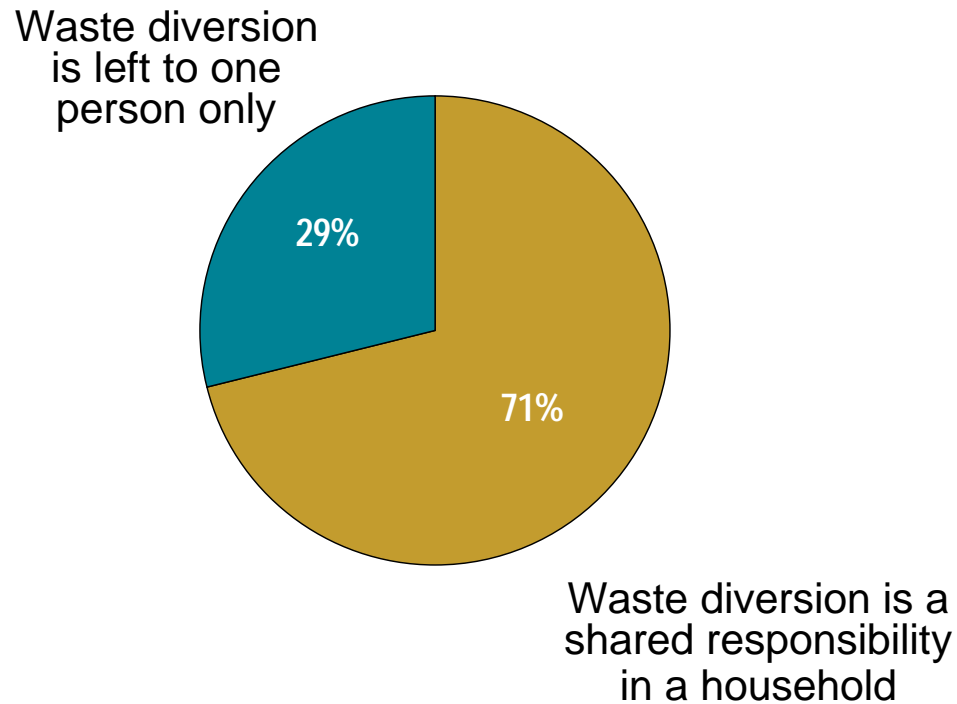
S1, Q.7 Are there any recycling containers at your building ?

S1, Q.8 Where are the recycling containers currently located in your building ?

Degree Of Household Participation In Waste Diversion Initiatives



Base: Among those who said "Yes" to Blue/Grey/or Green Box recycling, n=929



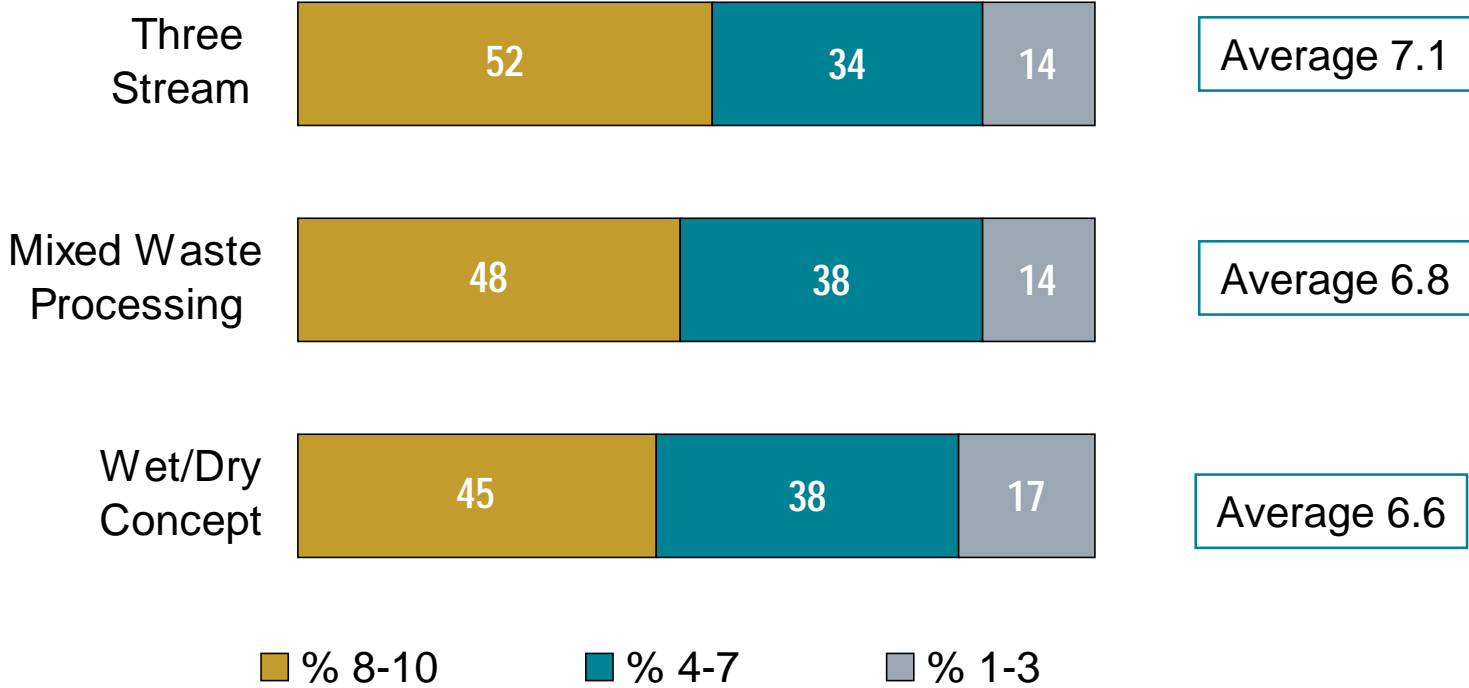
S1, Q.9 Would you say that participation in recycling is a shared responsibility in your household or it is left to one person only?

Overall Appeal Of The Concepts — Among Curbside Participants

Overall Appeal Of Waste Diversion Concepts



Base: Among Total Curbside Participants, n=705



S2,Q.1 Based on what you know about this new idea, how appealing is it to help solve Toronto's garbage problem? Use a 1 to 10 scale where 10 means "Very Appealing" and 1 means "Not At All Appealing".

Overall Assessment Of The Statements Relating To Each Concept – Among Curbside Participants



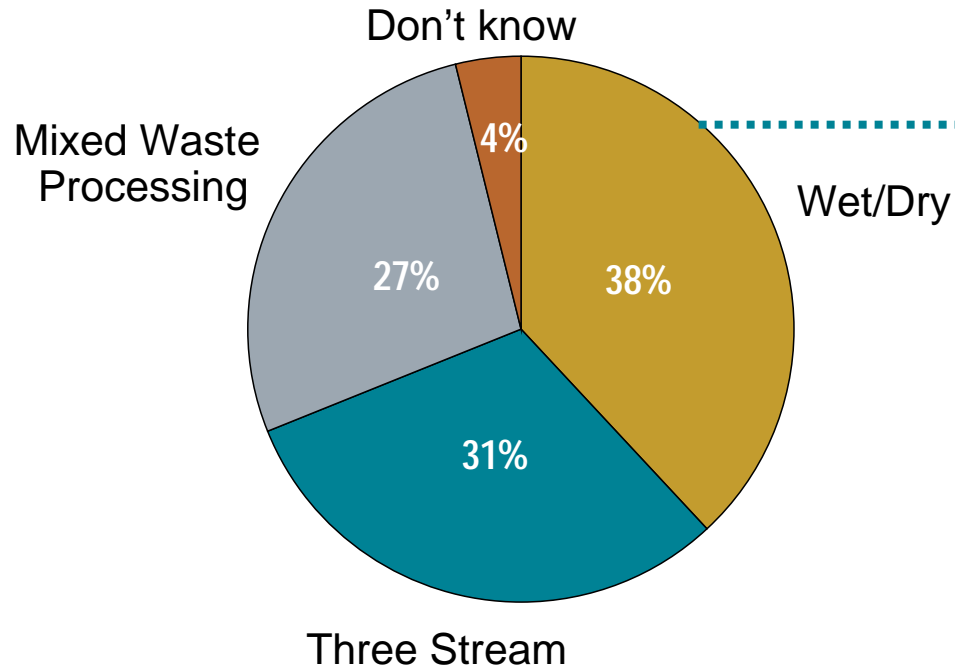
Base: Among Total Curbside Participants, n=705

| Among curbside participants saying 8-10 on a 10-point appeal scale | Those who prefer Three Stream Concept % | Those who prefer Wet/Dry Concept % | Those who prefer Mixed Waste Processing Concept % |
|---|---|------------------------------------|---|
| Will definitely reduce the amount of garbage sent to landfill | 63 | 59 | 50 |
| Members of the household would be willing to participate | 61 | 61 | N/A |
| Sorting out the household's garbage into the different types is not complicated | 53 | 56 | N/A |
| Is easy for members of the household to follow | 51 | 55 | N/A |
| Items will be easy to bring to the curbside | 50 | 54 | N/A |
| Minor changes are required to store the different types of waste in the house | 49 | 52 | N/A |
| Adopting this system is just as easy when recycling first came out a few years back | 48 | 52 | N/A |
| Is user-friendly | 47 | 52 | 62 |
| Is convenient | 40 | 46 | 60 |

Concept Of Preference — Among Curbside Participants



Base: Among Total Curbside Participants, n=705

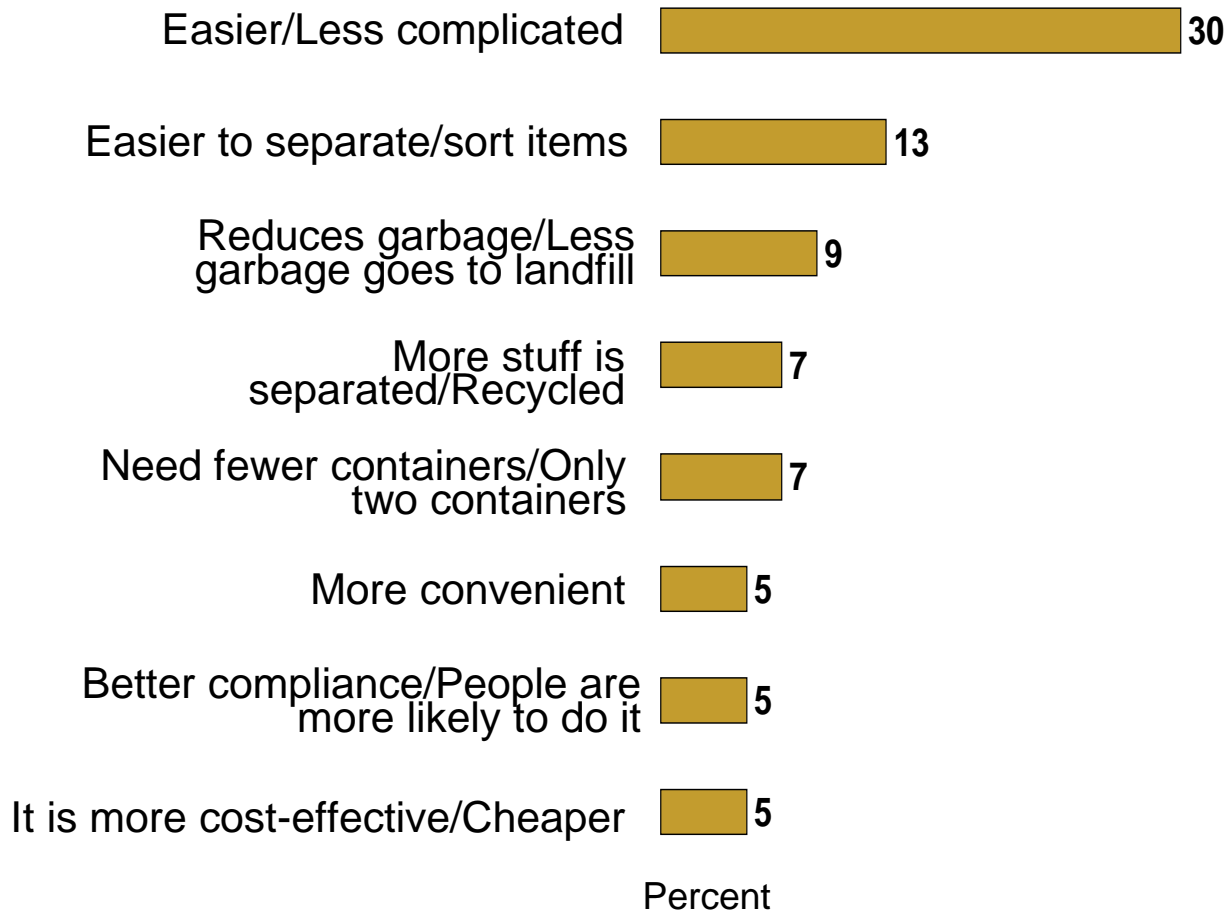


- Respondents give the Three Stream Concept the highest appeal ratings overall. Yet, some cite preference for the Wet/Dry system at the individual level.

Reasons For Preferring Wet/Dry Concept —Top Mentions Among Curbside Participants



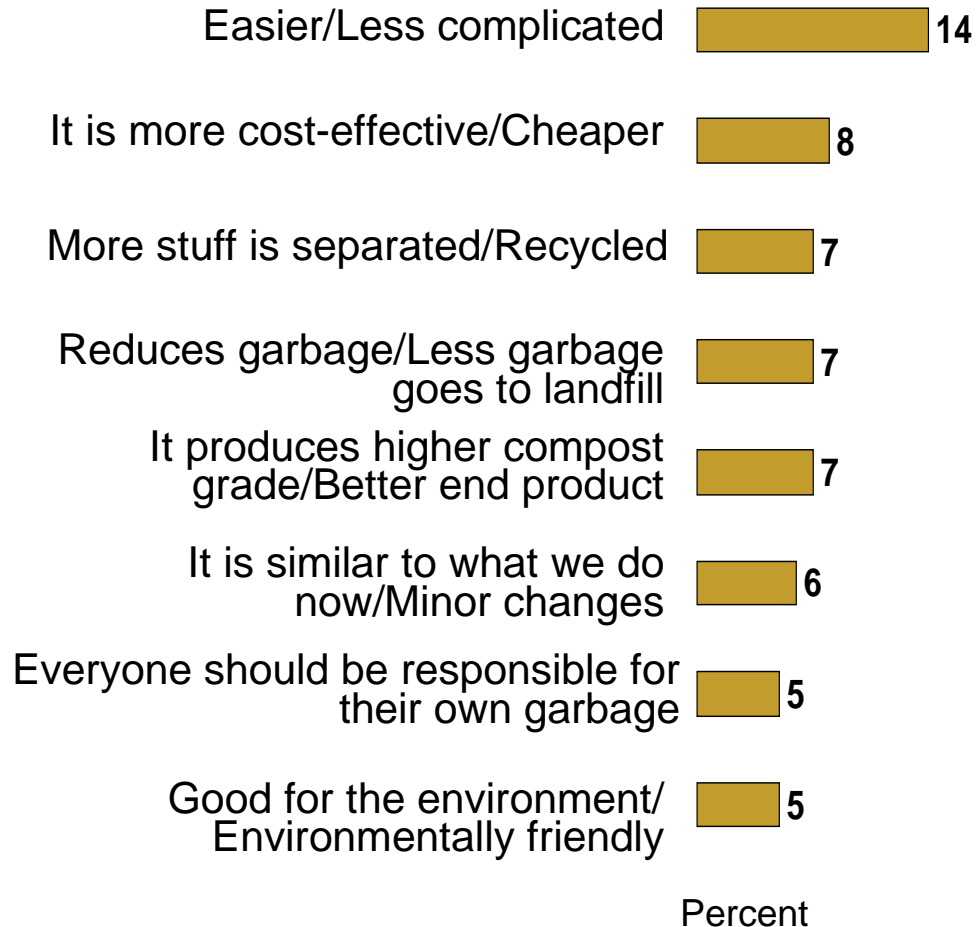
Base: Among Curbside Participants who Chose Wet/Dry Concept, n=266



Reasons For Preferring Three Stream Concept —Top Mentions Among Curbside Participants



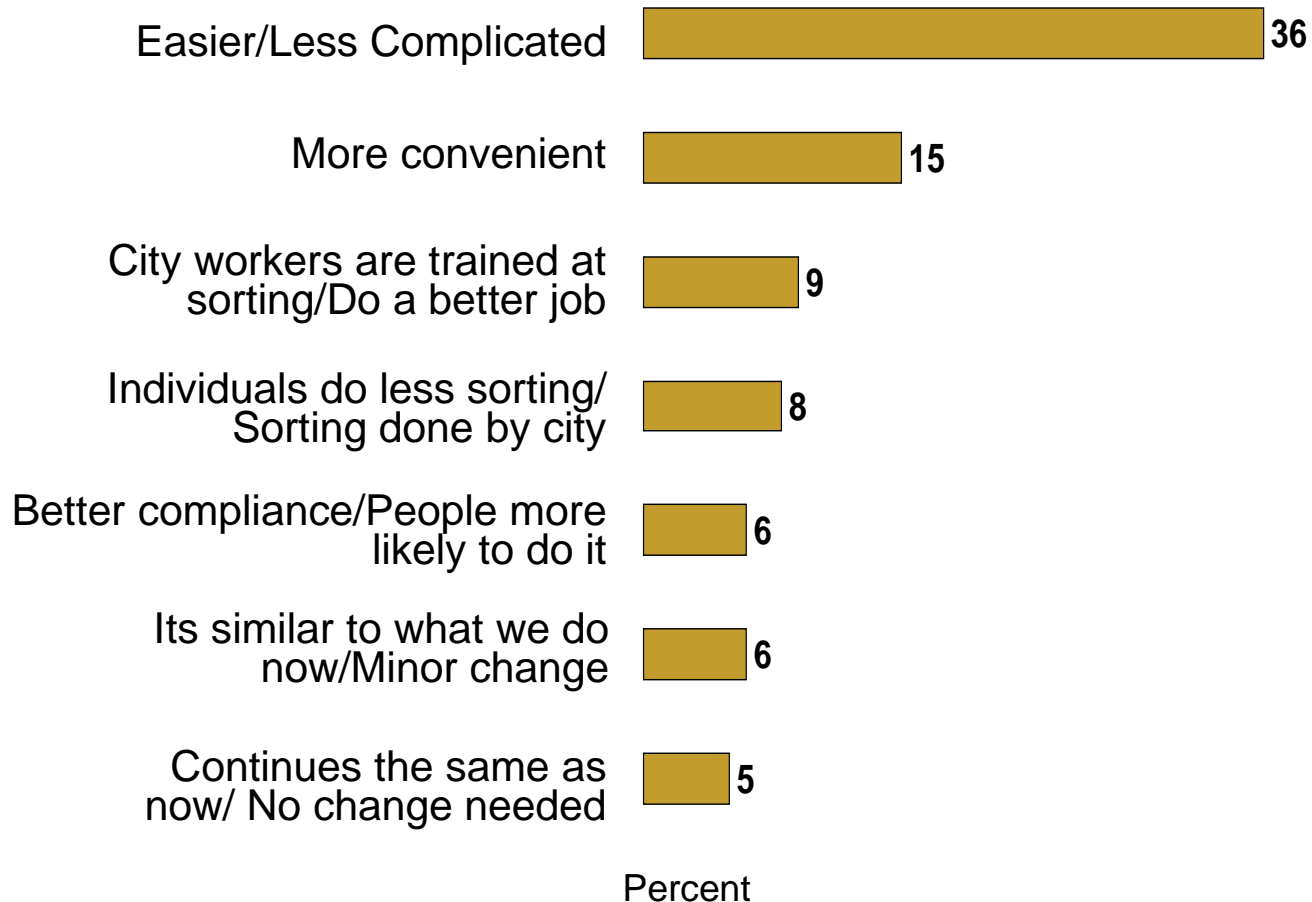
Base: Among Curbside Participants who Chose Three Stream Concept, n=217



Reasons For Preferring Mixed Waste Processing Concept — Top Mentions Among Curbside Participants



Base: Among Curbside Participants who Chose Mixed Waste Processing Concept, n =192



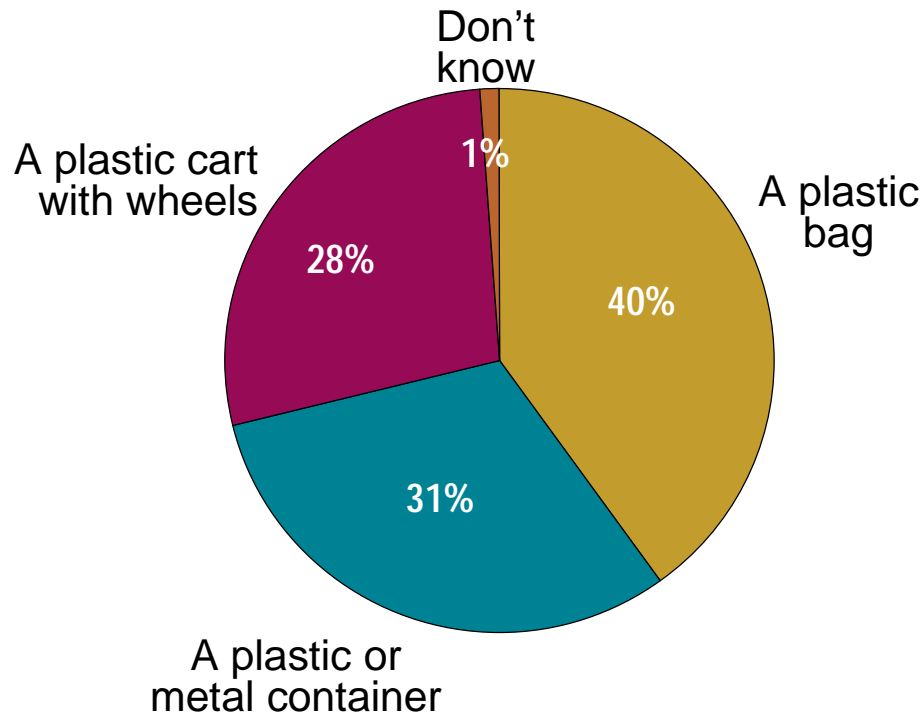
Ideal Placement Of Dry & Wet Materials

— Among Those Who Prefer Wet/Dry Concept

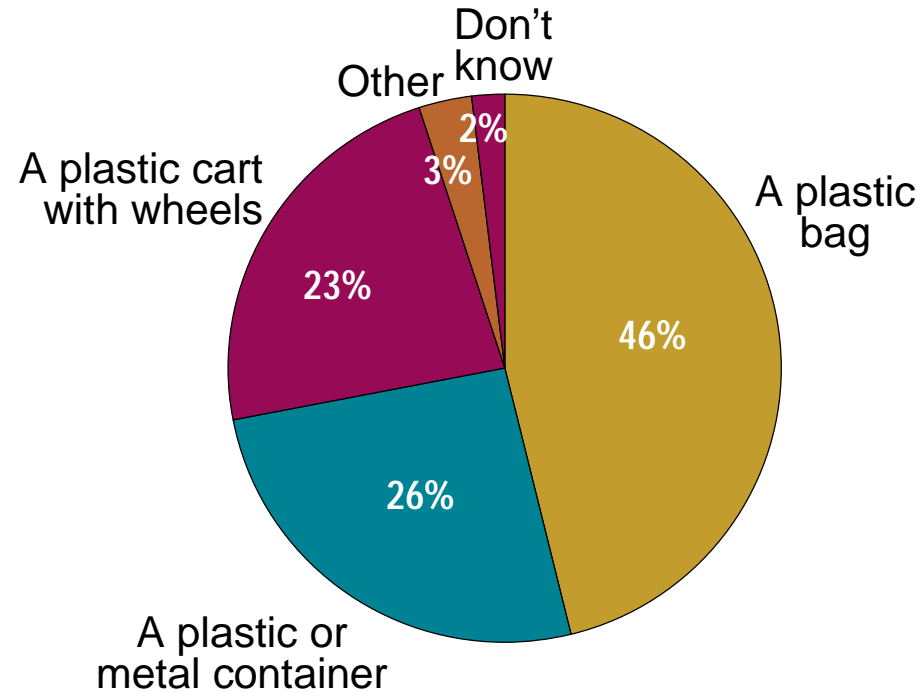


Base: Among Curbside Participants who Chose Wet/Dry Concept, n=266

Placement of Dry Materials



Placement of Wet Materials



S4, Q.1 Assume for a moment that the City of Toronto adopts the wet and dry system. When placing your wet and dry materials out for pick-up, would you prefer to place the dry materials such as recyclables in...?

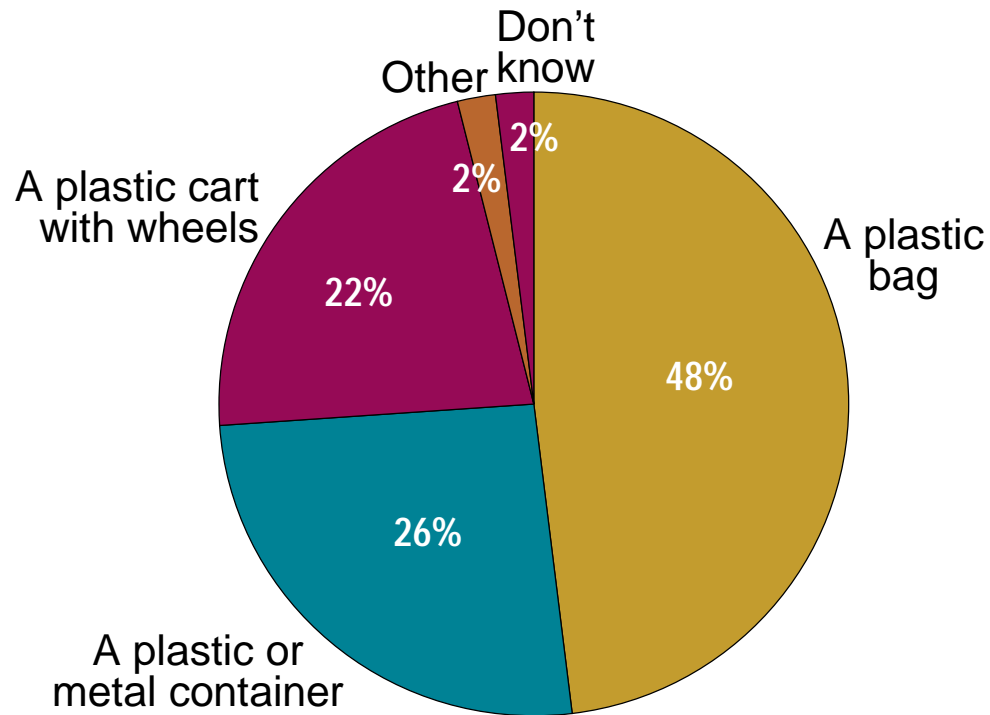
S4, Q.2 And would you prefer to place your wet materials in?

Ideal Placement Of Organic Material

— Among Those Who Prefer Three Stream Concept



Base: Among Curbside Participants who Chose Three Stream Concept, n=217

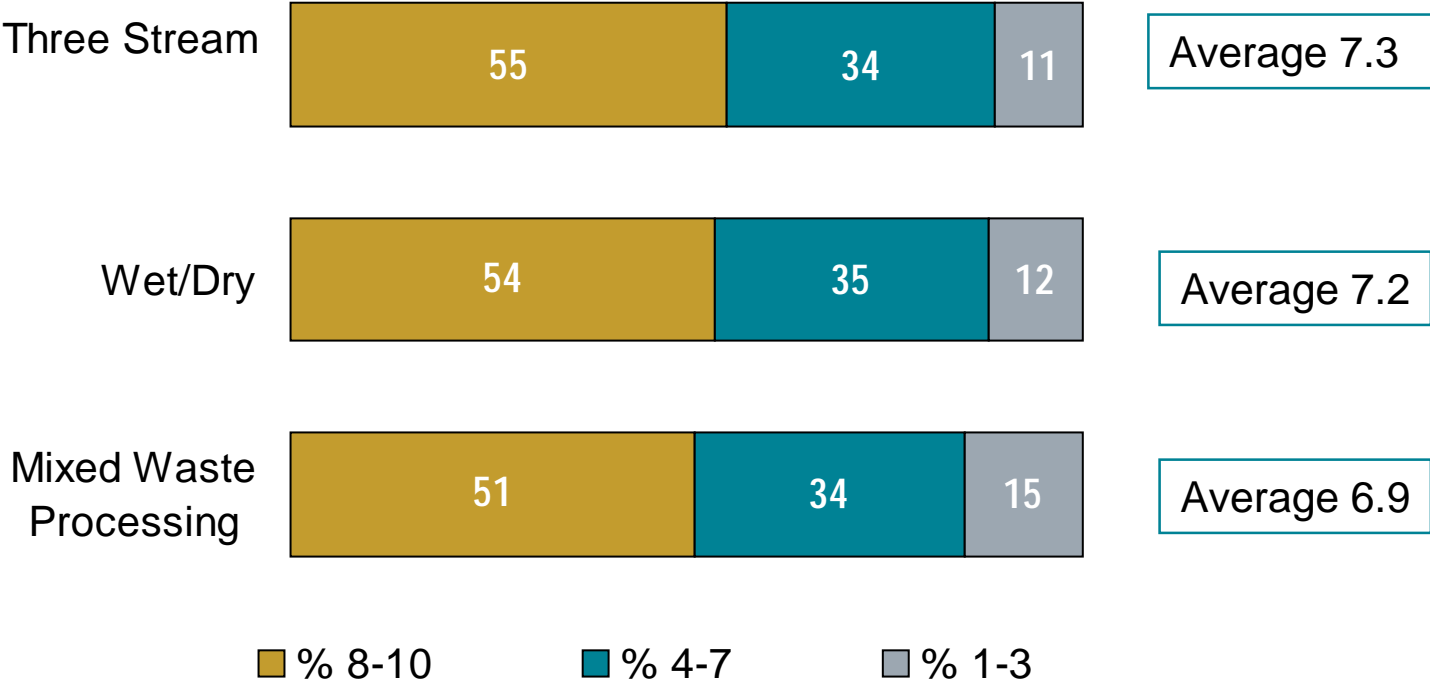


Overall Appeal Of The Concepts — Among Non-Curbside Participants

Overall Appeal Of Waste Diversion Concepts



Base: Among Total Non-Curbside Participants, n=411



S2,Q.1 Based on what you know about this new idea, how appealing is it to help solve Toronto's garbage problem? Use a 1 to 10 scale where 10 means "Very Appealing" and 1 means "Not At All Appealing".

Overall Assessment Of The Statements Relating To Each Concept — Among Non-Curbside Participants



Base: Among Total Non-Curbside Participants, n=411

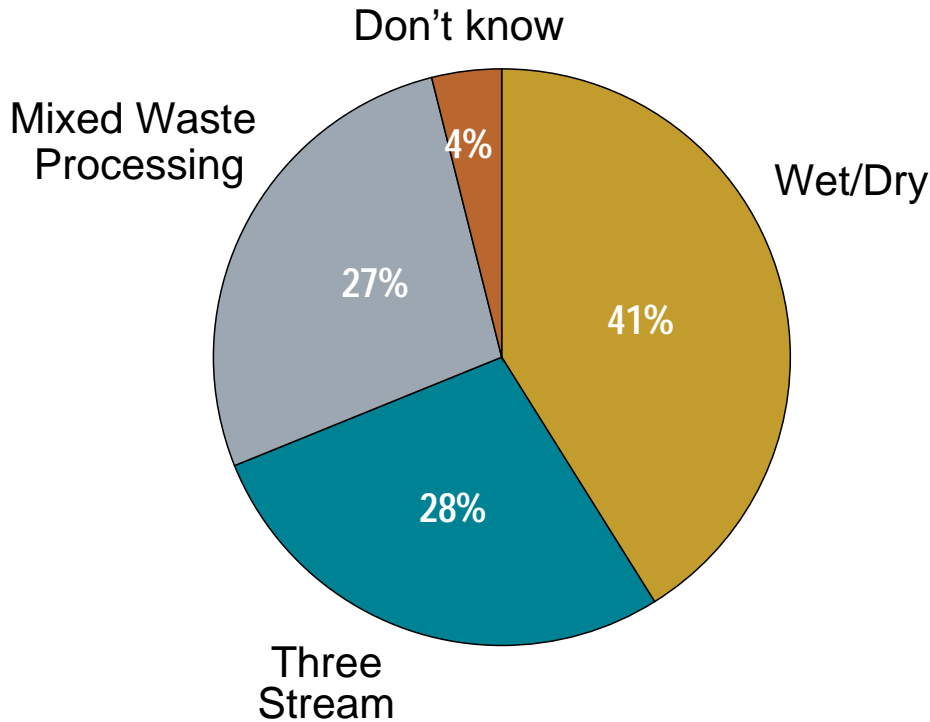
| Among curbside participants saying 8-10 on a 10-point appeal scale | Those who prefer Three Stream Concept % | Those who prefer Wet/Dry Concept % | Those who prefer Mixed Waste Processing Concept % |
|---|---|------------------------------------|---|
| Will definitely reduce the amount of garbage sent to landfill | 71 | 68 | 61 |
| Members of the household would be willing to participate | 66 | 68 | 75 |
| Is easy for members of the household to follow | 59 | 65 | 70 |
| Sorting out the household's garbage into the different types is not complicated | 57 | 64 | 66 |
| Is user-friendly | 53 | 59 | 65 |
| Minor changes are required to store the different types of waste in the house | 48 | 49 | 51 |
| Is convenient | 43 | 53 | 62 |

S2,Q2 Using 10-point scale, please rate the following statements....where 10 means you strongly agree and 1 means that you strongly disagree.

Concept Of Preference — Among Non-Curbside Participants



Base: Among Total Non-Curbside Participants, n=411

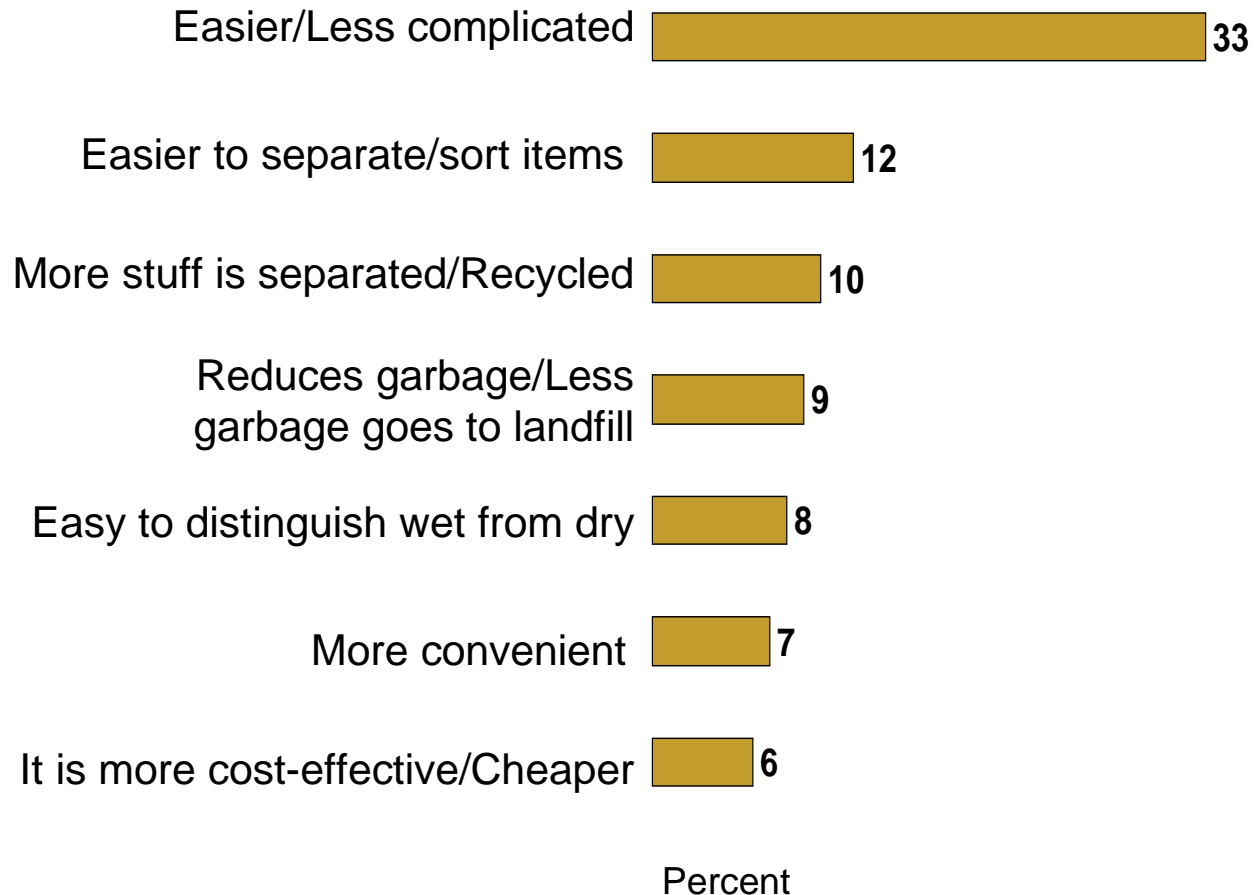


Among Non-Curbside Participants, 26% do not have any recycling facilities/containers at their building. In light of this finding, one could suppose that those who do not have recycling facilities have less experience with waste diversion practices, in general. This lack of experience with waste diversion could be resulting in a more favourable overall evaluation of the concepts.

Reasons For Preferring Wet/Dry Concept —Top Mentions Among Non-Curbside Participants



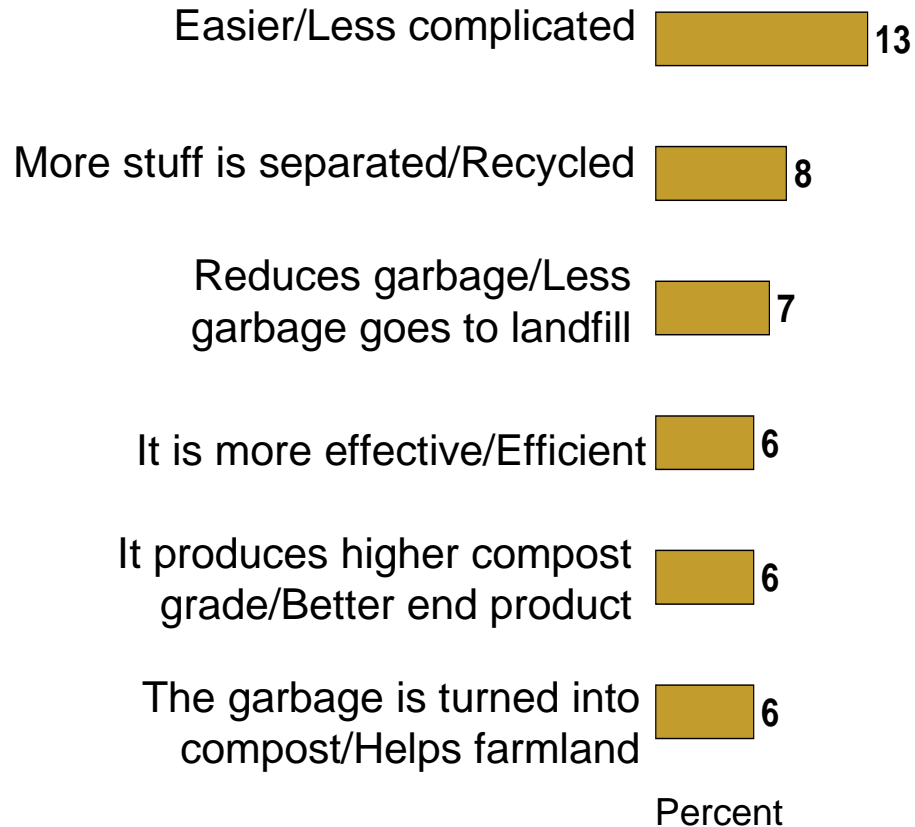
Base: Among Non-Curbside Participants who Chose Wet/Dry Concept, n=169



Reasons For Preferring Three Stream Concept —Top Mentions Among Non-Curbside Participants



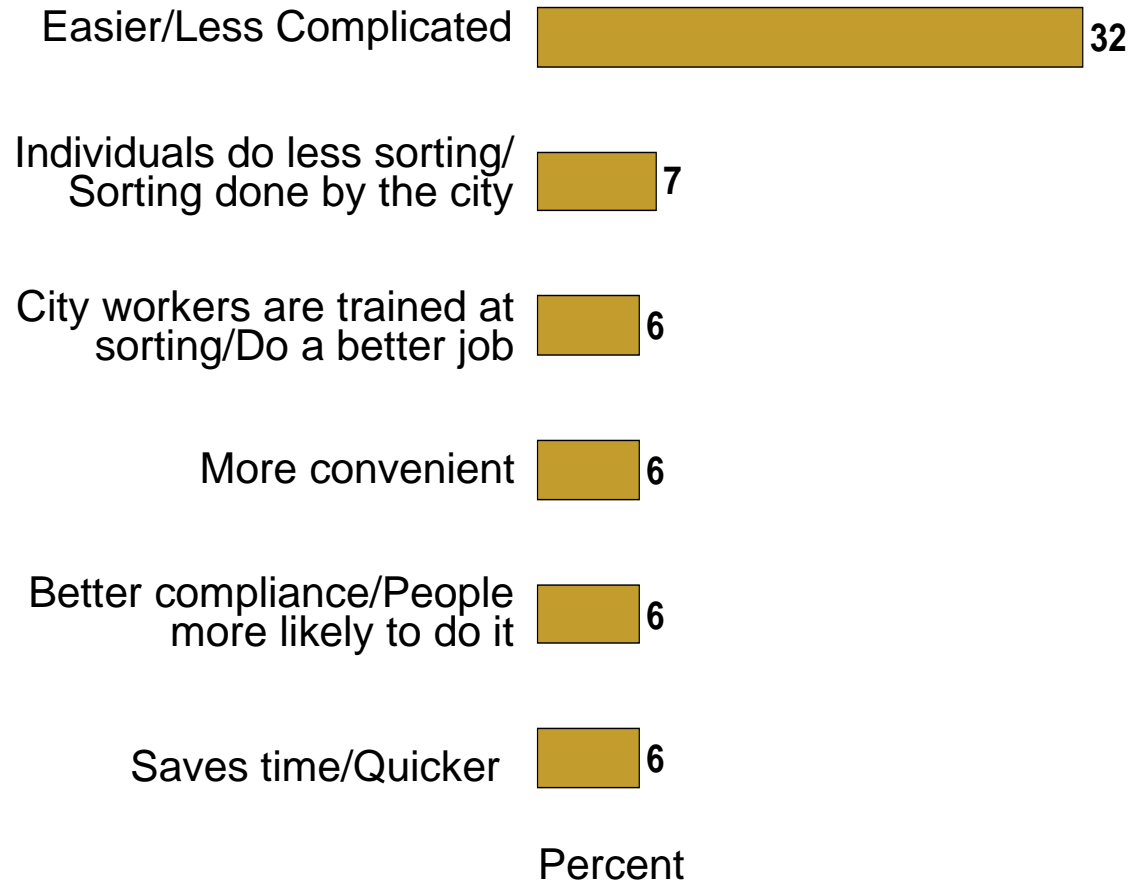
Base: Among Non-Curbside Participants who Chose Three Stream Concept, n=114



Reasons For Preferring Mixed Waste Processing Concept — Top Mentions Among Non-Curbside Participants



Base: Among Non-Curbside Participants who Chose Mixed Waste Processing Concept, n=109

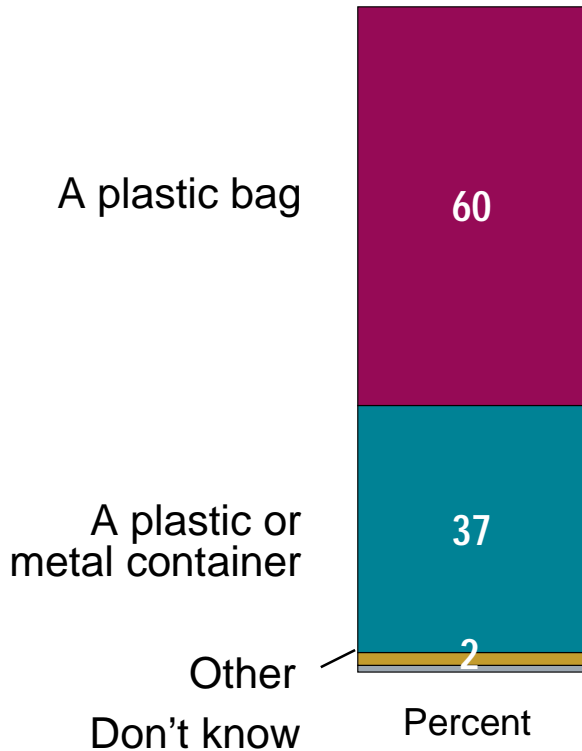


Preference For Wet Waste Storage In The House & Desired Frequency Of Collection — Among Non-Curbside Participants Who Chose Wet/Dry

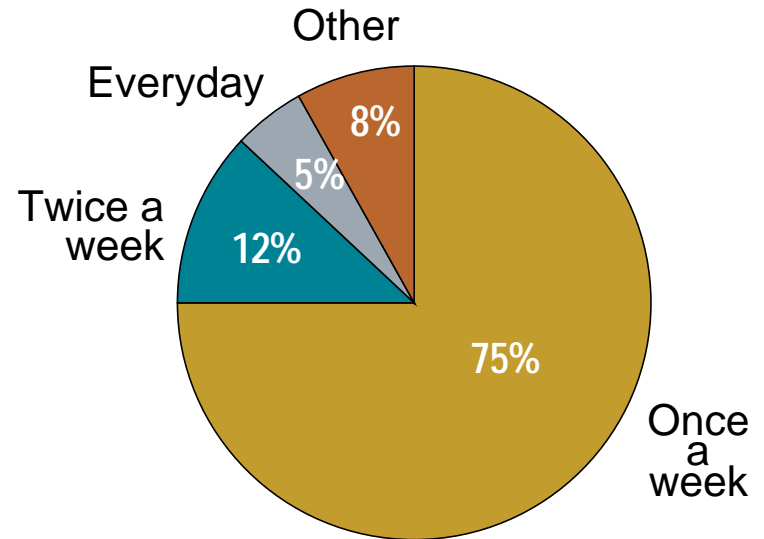


Base: Among Non-Curbside Participants who Chose Wet/Dry Concept, n=169

Storage Preference



Desired Frequency Of Collection



S6, Q.1 Thinking about the Wet/Dry concept, how do you think that you would store your food or wet waste in your home? Will you store it in...

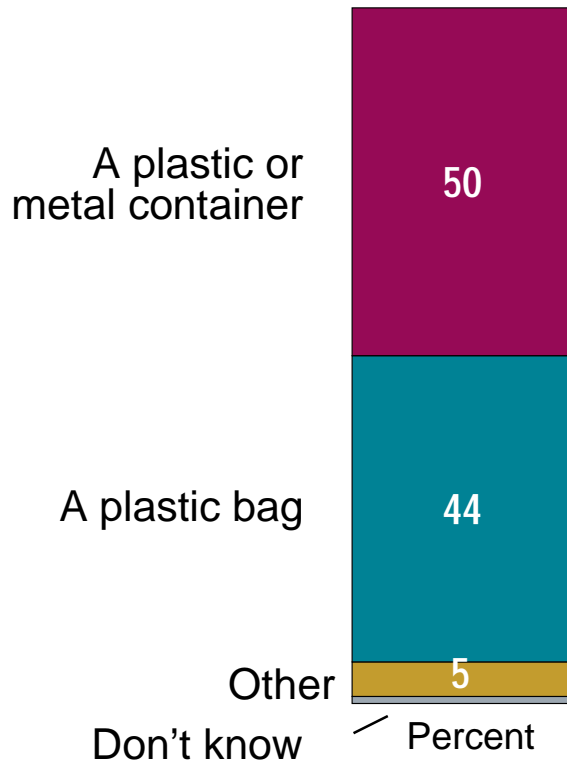
S6, Q.2 How frequently would you need organic or wet collection. Would you say..

Preference For Food Or Wet Waste Storage In The House & Desired Frequency Of Collection — Among Non Curbside Participants Who Chose Three Stream

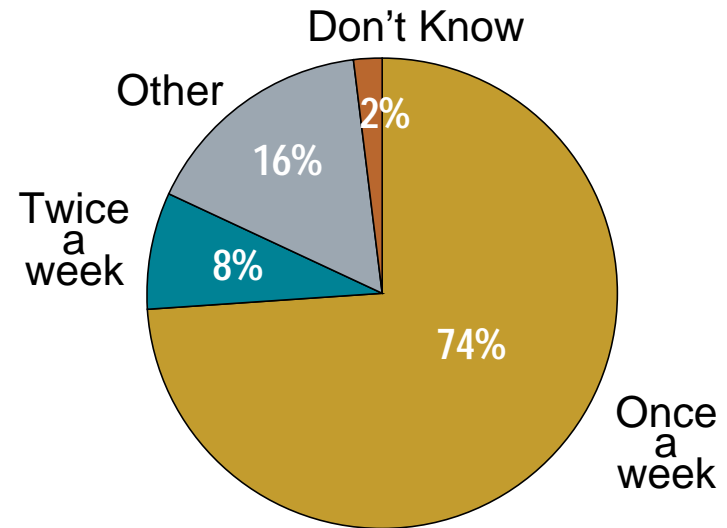


Base: Among Non-Curbside Participants who Chose Three Stream Concept, n=114

Storage Preference



Desired Frequency Of Collection



Summary

Summary Of The Concepts — Wet/Dry



- Throughout the seven focus groups, the Wet/Dry concept receives some consistently positive reviews due to the following perceptions:
 - Simplicity; and
 - Long-term ability to solve Toronto's perceived garbage dilemma.
- The quantitative findings suggest a similar perception.

Curbside Participants:

- 38% of respondents prefer Wet/Dry over Three Stream (31%) and Mixed Waste Processing (27%). The top cited reasons include:
 - Easier/Less complicated (30%);
 - Easier to separate/Sort items (13%); and
 - Reduces garbage/Less garbage goes to landfill (9%).

Non-Curbside Participants:

- 41% of Non-Curbside Participants prefer Wet/Dry over Three Stream (28%) and Mixed Waste Processing (27%). The top cited reasons include:
 - Easier/Less complicated (33%);
 - Easier to separate/Sort items (12%); and
 - More stuff is separated/recycled (10%).

Summary Of The Concepts — Three Stream



- In general, the qualitative findings suggest that respondents perceive the Three Stream concept as environmentally sound, yet have reservations about the perceived amount of individual effort required for this concept to be successful.
- The quantitative findings suggest a similar finding.

Curbside Participants:

- Respondents give the Three Stream concept highest overall appeal ratings (52% saying 8 - 10) versus Mixed Waste Processing (48%), and Wet/Dry (45%).
 - Yet, only 31% prefer this system over the two other proposed concepts.
 - It is possible that respondents rated this concept on a global/environmental level vs. a personal level. The top cited reasons for preferring this concept include:
 - Easier/Less complicated (14%);
 - It is more cost-effective/cheaper (8%); and
 - More stuff is separated/recycled (7%).

Non-Curbside Participants:

- 28% of Non-Curbside Participants prefer Three Stream over Mixed Waste Processing and Wet/Dry. The top cited reasons include:
 - Easier/Less complicated (13%);
 - More stuff is separated/recycled (8%); and
 - Reduces garbage/Less garbage goes to landfill (7%).

Summary Of The Concepts — Mixed Waste Processing



- The Mixed Waste Processing concept provokes mixed reviews throughout the seven focus groups.
 - Specifically, there is a general perception that this system is similar to the current City of Toronto system.
 - In light of this general perception, respondents tend to question the concept's ability to deal with Toronto's waste issues, long-term.

Curbside Participants:

- 27% of respondents prefer Mixed Waste Processing over the other proposed concepts. The top cited reasons include:
 - Easier/Less complicated (36%);
 - More convenient (15%); and
 - City Workers are trained at sorting/do a better job (9%).

Non-Curbside Participants:

- 27% of Non-Curbside Participants prefer Mixed Waste Processing over the other proposed concepts. The top cited reasons include:
 - Easier/Less complicated (32%);
 - Individuals do less sorting/Sorting done by the City (7%); and
 - City workers are trained at sorting/do a better job (6%).

Conclusions

Conclusions



- Residents of the City of Toronto are willing to contribute a greater personal effort in terms of waste diversion.
- Ease of use and convenience are the principal drivers of encouraging participation in any new or modified waste diversion program.
- While none of the three waste diversion concepts tested was an overwhelming favourite among residents, there are some perceived benefits and a willingness to participate with each option.
- A key to the success of any program is giving participants feedback on how their efforts are contributing to achieving the waste diversion strategy and in particular how diverted material is being used/recycled.
- Implementation of any new waste diversion initiative would benefit from some initial test results/feedback from those residents already engaged in recycling (e.g. pre-launch Vs. post-implementation feedback).